

ZARONTIN - ethosuximide solution

Parke-Davis Div of Pfizer Inc

DESCRIPTION

Zarontin (ethosuximide) is an anticonvulsant succinimide, chemically designated as alpha-ethyl-alpha-methyl-succinimide, with the following structural formula:



Each teaspoonful (5 mL), for oral administration, contains 250 mg ethosuximide, USP. Also contains citric acid, anhydrous, USP; FD&C red No. 40; FD&C yellow No. 6; flavor; glycerin, USP; purified water, USP; saccharin sodium, USP; sodium benzoate, NF; sodium citrate, USP; sucrose, NF.

CLINICAL PHARMACOLOGY

Ethosuximide suppresses the paroxysmal three cycle per second spike and wave activity associated with lapses of consciousness which is common in absence (petit mal) seizures. The frequency of epileptiform attacks is reduced, apparently by depression of the motor cortex and elevation of the threshold of the central nervous system to convulsive stimuli.

INDICATIONS AND USAGE

Zarontin is indicated for the control of absence (petit mal) epilepsy.

CONTRAINDICATIONS

Ethosuximide should not be used in patients with a history of hypersensitivity to succinimides.

WARNINGS

Blood dyscrasias

Blood dyscrasias, including some with fatal outcome, have been reported to be associated with the use of ethosuximide; therefore, periodic blood counts should be performed. Should signs and/or symptoms of infection (eg, sore throat, fever) develop, blood counts should be considered at that point.

Effects on Liver and Kidneys

Ethosuximide is capable of producing morphological and functional change in the animal liver. In humans, abnormal liver and renal function studies have been reported. Ethosuximide should be administered with extreme caution to patients with known liver or renal disease. Periodic urinalysis and liver function studies are advised for all patients receiving the drug.

Systemic Lupus Erythematosus

Cases of systemic lupus erythematosus have been reported with the use of ethosuximide. The physician should be alert to this possibility.

Suicidal Behavior and Ideation

Antiepileptic drugs (AEDs), including Zarontin, increase the risk of suicidal thoughts or behavior in patients taking these drugs for any indication. Patients treated with any AED for any indication should be monitored for the emergence or worsening of depression, suicidal thoughts or behavior, and/or any unusual changes in mood or behavior.

Pooled analyses of 199 placebo-controlled clinical trials (mono- and adjunctive therapy) of 11 different AEDs showed that patients randomized to one of the AEDs had approximately twice the risk (adjusted Relative Risk 1.8, 95% CI:1.2, 2.7) of suicidal thinking or behavior compared to patients randomized to placebo. In these trials, which had a median treatment duration of 12 weeks, the estimated incidence rate of suicidal behavior or ideation among 27,863 AED-treated patients was 0.43%, compared to 0.24% among 16,029 placebo-treated patients, representing an increase of approximately one case of suicidal thinking or behavior for every 530 patients treated. There were four suicides in drug-treated patients in the trials and none in placebo-treated patients, but the number is too small to allow any conclusion about drug effect on suicide.

The increased risk of suicidal thoughts or behavior with AEDs was observed as early as one week after starting drug treatment with AEDs and persisted for the duration of treatment assessed. Because most trials included in the analysis did not extend beyond 24 weeks, the risk of suicidal thoughts or behavior beyond 24 weeks could not be assessed.

The risk of suicidal thoughts or behavior was generally consistent among drugs in the data analyzed. The finding of increased risk with AEDs of varying mechanisms of action and across a range of indications suggests that the risk applies to all AEDs used for any indication. The risk did not vary substantially by age (5–100 years) in the clinical trials analyzed.

Table 1 shows absolute and relative risk by indication for all evaluated AEDs.

Table 1 Risk by indication for antiepileptic drugs in the pooled analysis

Indication	Placebo Patients with Events Per 1000 Patients	Drug Patients with Events Per 1000 Patients	Relative Risk: Incidence of Events in Drug Patients/ Incidence in Placebo Patients	Risk Difference: Additional Drug Patients with Events Per 1000 Patients
Epilepsy	1.0	3.4	3.5	2.4
Psychiatric	5.7	8.5	1.5	2.9
Other	1.0	1.8	1.9	0.9
Total	2.4	4.3	1.8	1.9

The relative risk for suicidal thoughts or behavior was higher in clinical trials for epilepsy than in clinical trials for psychiatric or other conditions, but the absolute risk differences were similar for the epilepsy and psychiatric indications.

Anyone considering prescribing Zaronitin or any other AED must balance the risk of suicidal thoughts and behavior with the risk of untreated illness. Epilepsy and many other illnesses for which AEDs are prescribed are themselves associated with morbidity and mortality and an increased risk of suicidal thoughts and behavior. Should suicidal thoughts and behavior emerge during treatment, the prescriber needs to consider whether the emergence of these symptoms in any given patient may be related to the illness being treated. Patients, their caregivers, and families should be informed that AEDs increase the risk of suicidal thoughts and behavior and should be advised of the need to be alert for the emergence or worsening of the signs and symptoms of depression, any unusual changes in mood or behavior, or the emergence of suicidal thoughts, behavior, or thoughts about self-harm. Behaviors of concern should be reported immediately to healthcare providers.

Usage in Pregnancy

Ethosuximide crosses the placenta.

Reports suggest an association between the use of anticonvulsant drugs by women with epilepsy and an elevated incidence of birth defects in children born to these women. Data are more extensive with respect to phenytoin and phenobarbital, but these are also the most commonly prescribed anticonvulsants; less systematic or anecdotal reports suggest a possible similar association with the use of all known anticonvulsant drugs.

Cases of birth defects have been reported with ethosuximide. The reports suggesting an elevated incidence of birth defects in children of drug-treated epileptic women cannot be regarded as adequate to prove a definite cause and effect relationship. There are intrinsic methodologic problems in obtaining adequate data on drug teratogenicity in humans; the possibility also exists that other factors, eg, genetic factors or the epileptic condition itself, may be more important than drug therapy in leading to birth defects. The great majority of mothers on anticonvulsant medication deliver normal infants. It is important to note that anticonvulsant drugs should not be discontinued in patients in whom the drug is administered to prevent major seizures because of the strong possibility of precipitating status epilepticus with attendant hypoxia and threat to life. In individual cases where the severity and frequency of the seizure disorder are such that the removal of medication does not pose a serious threat to the patient, discontinuation of the drug may be considered prior to and during pregnancy, although it cannot be said with any confidence that even minor seizures do not pose some hazard to the developing embryo or fetus.

The prescribing physician will wish to weigh these considerations in treating or counseling epileptic women of childbearing potential. Ethosuximide is excreted in human breast milk. Because the effects of ethosuximide on the nursing infant are unknown, caution should be exercised when ethosuximide is administered to a nursing mother. Ethosuximide should be used in nursing mothers only if the benefits clearly outweigh the risks.

PRECAUTIONS

General

Ethosuximide, when used alone in mixed types of epilepsy, may increase the frequency of grand mal seizures in some patients. As with other anticonvulsants, it is important to proceed slowly when increasing or decreasing dosage, as well as when adding or eliminating other medication. Abrupt withdrawal of anticonvulsant medication may precipitate absence (petit mal) status.

Information for Patients

Ethosuximide may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a motor vehicle or other such activity requiring alertness; therefore, the patient should be cautioned accordingly.

Patients taking ethosuximide should be advised of the importance of adhering strictly to the prescribed dosage regimen.

Patients should be instructed to promptly contact their physician when they develop signs and/or symptoms suggesting an infection (eg, sore throat, fever).

Patients, their caregivers, and families should be counseled that AEDs, including Zaronitin, may increase the risk of suicidal thoughts and behavior and should be advised of the need to be alert for the emergence or worsening of symptoms of depression, any unusual changes in mood or behavior, or the emergence of suicidal thoughts, behavior, or thoughts about self-harm. Behaviors of concern should be reported immediately to healthcare providers.

Patients should be encouraged to enroll in the North American Antiepileptic Drug (NAAED) Pregnancy Registry if they become pregnant. This Registry is collecting information about the safety of antiepileptic drugs during pregnancy. To enroll, patients can call the toll free number 1-888-233-2334 (see PRECAUTIONS: Pregnancy section).

Drug Interactions

Since Zarontin (ethosuximide) may interact with concurrently administered antiepileptic drugs, periodic serum level determinations of these drugs may be necessary (eg, ethosuximide may elevate phenytoin serum levels and valproic acid has been reported to both increase and decrease ethosuximide levels).

Pregnancy

To provide information regarding the effects of *in utero* exposure to Zarontin, physicians are advised to recommend that pregnant patients taking Zarontin enroll in the (NAAED) Pregnancy Registry. This can be done by calling the toll free number 1-888- 233-2334, and must be done by patients themselves. Information on the registry can also be found at the website: <http://www.aedpregnancyregistry.org/>.

See WARNINGS.

Pediatric Use

Safety and effectiveness in pediatric patients below the age of 3 years have not been established. (See DOSAGE AND ADMINISTRATION section.)

ADVERSE REACTIONS

Body As A Whole: Allergic reaction.

Gastrointestinal System: Gastrointestinal symptoms occur frequently and include anorexia, vague gastric upset, nausea and vomiting, cramps, epigastric and abdominal pain, weight loss, and diarrhea. There have been reports of gum hypertrophy and swelling of the tongue.

Hemopoietic System: Hemopoietic complications associated with the administration of ethosuximide have included leukopenia, agranulocytosis, pancytopenia, with or without bone marrow suppression, and eosinophilia.

Nervous System: Neurologic and sensory reactions reported during therapy with ethosuximide have included drowsiness, headache, dizziness, euphoria, hiccups, irritability, hyperactivity, lethargy, fatigue, and ataxia.

Psychiatric or psychological aberrations associated with ethosuximide administration have included disturbances of sleep, night terrors, inability to concentrate, and aggressiveness.

These effects may be noted particularly in patients who have previously exhibited psychological abnormalities. There have been rare reports of paranoid psychosis, increased libido, and increased state of depression with overt suicidal intentions.

Integumentary System: Dermatologic manifestations which have occurred with the administration of ethosuximide have included urticaria, Stevens-Johnson syndrome, systemic lupus erythematosus, pruritic erythematous rashes, and hirsutism.

Special Senses: Myopia.

Genitourinary System: Vaginal bleeding, microscopic hematuria.

OVERDOSAGE

Acute overdoses may produce nausea, vomiting, and CNS depression including coma with respiratory depression. A relationship between ethosuximide toxicity and its plasma levels has not been established. The therapeutic range of serum levels is 40 mcg/mL to 100 mcg/mL, although levels as high as 150 mcg/mL have been reported without signs of toxicity.

Treatment

Treatment should include emesis (unless the patient is or could rapidly become obtunded, comatose, or convulsing) or gastric lavage, activated charcoal, cathartics, and general supportive measures. Hemodialysis may be useful to treat ethosuximide overdose. Forced diuresis and exchange transfusions are ineffective.

DOSAGE AND ADMINISTRATION

Zarontin is administered by the oral route. The *initial* dose for patients 3 to 6 years of age is one teaspoonful (250 mg) per day; for patients 6 years of age and older, 2 teaspoonfuls (500 mg) per day. The dose thereafter must be individualized according to the patient's response. Dosage should be increased by small increments. One useful method is to increase the daily dose by 250 mg every four to seven days until control is achieved with minimal side effects. Dosages exceeding 1.5 g daily, in divided doses, should be administered only under the strictest supervision of the physician. The *optimal* dose for most pediatric patients is 20 mg/kg/day. This dose has given average plasma levels within the accepted therapeutic range of 40 to 100 mcg/mL. Subsequent dose schedules can be based on effectiveness and plasma level determinations.

Zarontin may be administered in combination with other anticonvulsants when other forms of epilepsy coexist with absence (petit mal). The *optimal* dose for most pediatric patients is 20 mg/kg/day.

HOW SUPPLIED

Zarontin is supplied as:

NDC 007 1-2418-23-1 pint bottles. Each 5 mL of oral solution contains 250 mg ethosuximide in a raspberry flavored base.

Store at 20°–25° (68° – 77°F); [see USP Controlled Room Temperature]

Preserve in tight containers. Protect from freezing and light.

Rx only



LAB-0093-5.0

June 2009

MEDICATION GUIDE

ZARONTIN (Z# R#N' T#N)

(ETHOSUXIMIDE)

ORAL SOLUTION

Read the Medication Guide before you or your family member start taking ZARONTIN and each time you get a refill. There may be new information. This information does not take the place of talking to your healthcare provider about your medical condition or treatment. If you have any questions about ZARONTIN, ask your healthcare provider or pharmacist.

What is the most important information I should know about ZARONTIN?

ZARONTIN may cause a serious, even life-threatening blood cell abnormalities such as reduced red or white blood cells; therefore, periodic blood counts should be performed. Contact your healthcare provider right away if you have any of these signs and/or symptoms of infection:

- Unusual bruising

- Sore throat

- Fever

Like other antiepileptic drugs, **ZARONTIN may cause suicidal thoughts or actions in a very small number of people, about 1 in 500.**

Call a healthcare provider right away if you have any of these symptoms, especially if they are new, worse, or worry you:

- thoughts about suicide or dying
- attempts to commit suicide
- new or worse depression
- new or worse anxiety
- feeling agitated or restless
- panic attacks
- trouble sleeping (insomnia)
- new or worse irritability
- acting aggressive, being angry, or violent
- acting on dangerous impulses
- an extreme increase activity and talking (mania)
- other unusual changes in behavior or mood

If you have suicidal thoughts or actions, do not stop ZARONTIN without first talking to your healthcare provider.

- Stopping ZARONTIN suddenly can cause serious problems.
- Suicidal thoughts or actions can be caused by things other than medicines. If you have suicidal thoughts or actions, your healthcare provider may check for other causes.

How can I watch for early symptoms of suicidal thoughts and actions?

- Pay attention to any changes, especially sudden changes, in mood, behaviors, thoughts, or feelings.
- Keep all follow-up visits with your healthcare provider as scheduled.
- Call your healthcare provider between visits as needed, especially if you are worried about symptoms.

What is ZARONTIN?

ZARONTIN is a prescription medicine used alone or with other medications to treat certain types of seizures in people.

ZARONTIN belongs to a class of prescription medicines called anticonvulsants or anti-seizure medications used to control epilepsy in children and adults. Epilepsy is a condition where you have repeated seizures (fits). There are many different types of seizures, ranging from mild to severe. ZARONTIN is used to control absence (petit mal) seizures. Ask your healthcare provider if you have any questions about why ZARONTIN has been prescribed for you.

Who should not take ZARONTIN?

Do not take ZARONTIN if you have had an allergic reaction to other succinimide drugs (e.g., methsuximide) or to any of the inactive ingredients in ZARONTIN. See the end of this guide for a complete list of ingredients.

What should I tell my healthcare provider before taking ZARONTIN?

Before taking ZARONTIN, tell your healthcare provider about all of your medical conditions, including if you:

- Have or had seizures
- Have or had kidney problems
- Have or had liver problems
- Have or had Systematic Lupus Erythematosus
- Have or had frequent infections such as fever, chills, sore throat or mouth ulcers
- Have or had a rash or allergic reaction to another antiepileptic drug (AED) medicine
- Are pregnant or plan to become pregnant. It is not known if ZARONTIN will harm your unborn baby. You and your healthcare provider will have to decide if you should take ZARONTIN while you are pregnant. If you become pregnant while taking ZARONTIN, talk to your healthcare provider about registering with the North American Antiepileptic Drug Pregnancy Registry. You can enroll in this registry by calling 1-888-233-2334. The purpose of this registry is to collect information about the safety of antiepileptic drugs during pregnancy.
- **Are breast-feeding or plan to breast-feed. It is not known if ZARONTIN can pass into breast milk and if it can harm your baby.** Talk to your healthcare provider about the best way to feed your baby if you take ZARONTIN.

Tell your healthcare provider about all the medicines that you take, including prescription and non-prescription medicines, vitamins, and herbal supplements. ZARONTIN and some medicines may interact with each other causing side effects. Especially tell your healthcare provider if you take:

- Phenytoin and Valproic Acid, which are also used to treat epilepsy.
- Ethosuximide interacts with phenytoin and valproic acid. Phenytoin may increase their plasma concentrations and valproic acid may both increase or decrease their plasma concentrations therefore periodic blood levels of these drugs may be needed.

Know the medicines you take. Keep a list of them with you to show your healthcare provider and pharmacist each time you get a new medicine. Do not start a new medicine without talking with your healthcare provider.

How should I take ZARONTIN?

- Take ZARONTIN exactly as prescribed. Your healthcare provider may need to change (adjust) the dose of ZARONTIN until it is right for you. If you miss a dose of ZARONTIN, take the missed dose as soon as you remember. If it is almost time for the next dose, skip the missed dose and take your next dose at the regular time. Do not take two doses of ZARONTIN at the same time.
- ZARONTIN oral solution can be taken with or without food.
- Do not stop taking ZARONTIN without talking to your healthcare provider. If you stop taking ZARONTIN suddenly, you may have seizures more often. If you need to stop taking ZARONTIN, your healthcare provider can tell you how to safely stop taking it.
- If you take too much ZARONTIN, call your healthcare provider or poison control center, or go to the nearest emergency room right away.
- If you have epilepsy, tell your healthcare provider if your seizures get worse or if you have new types of seizures.
- If you do not think you are getting better or have any concerns about your condition while taking ZARONTIN, call your doctor.

OVERDOSAGE

If you suspect an overdose, seek medical attention immediately.

Acute overdoses may produce nausea, vomiting, and can progress to coma with respiratory depression.

What should I avoid while taking ZARONTIN?

See the section above called "Who should not take ZARONTIN?"

Do not drive a car, work with machines, or do other dangerous activities until you know how ZARONTIN affects you.

What are the possible side effects of ZARONTIN?

See "What is the most important information I should know about ZARONTIN?"

ZARONTIN may cause serious side effects, including:

- Seizures

- Rash: Tell your healthcare provider right away if you get red itchy welts (hives) or rash on your body, or if you become severely ill and have some or all of these symptoms: swelling of your face or eyes, while taking ZARONTIN.

The most common side effects of ZARONTIN are:

- feeling tired or drowsy
- dizziness or lightheadedness
- headache
- weakness, unsteadiness when walking
- mood changes such feelings of extreme happiness, irritability or excitement
- hiccups
- loss of concentration
- disturbance of sleep
- frightening dreams
- abnormally suspicious thoughts
- increased libido
- indigestion, stomach pain or discomfort
- cramps
- blurred vision
- nausea (feeling sick or vomiting)
- swollen gums or tongue
- diarrhea
- weight loss
- loss of appetite
- itchy red skin rash or hives
- excessive hairiness, especially in women
- short sightedness
- vaginal bleeding
- allergic reaction
- blood in urine

These are not all the possible side effects with ZARONTIN. For more information, ask your healthcare provider or pharmacist. Tell your doctor about any side effect that bothers you or that does not go away.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

How should I store ZARONTIN?

Keep ZARONTIN and all medicines out of the reach of children.

Store ZARONTIN at room temperature, 20°–25°C (68° – 77°F). Preserve in tight containers. Protect from freezing and light.

General information about ZARONTIN

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use ZARONTIN for a condition for which it was not prescribed. Do not give ZARONTIN to other people, even if they have the same condition. It may harm them.

This Medication Guide summarizes the most important information about ZARONTIN. If you would like more information, talk with your healthcare provider. You can ask your healthcare provider or pharmacist for information about ZARONTIN that was written for healthcare professionals.

What are the ingredients in ZARONTIN?

Active ingredient: ethosuximide

Inactive ingredients: Each 5 ml (teaspoonful) of oral solution contains 250 mg ethosuximide in a raspberry flavored base. Also contains citric acid, anhydrous, USP; FD&C red No. 40; FD&C yellow No. 6; flavor; glycerin, USP; purified water, USP; saccharin sodium, USP; sodium benzoate, NF; Sodium Citrate, USP; sucrose, NF.

This Medication Guide has been approved by the U.S. Food and Drug Administration.



LAB-0402-1.0
September 2009

PRINCIPAL DISPLAY PANEL - 474 ML BOTTLE LABEL

NDC 0071-2418-23

1 Pint (474 mL)

Rx only

Zarontin®

(Ethosuximide)

ORAL SOLUTION

250 mg per 5 mL

Pfizer

Distributed by

Parke-Davis

Division of Pfizer Inc, NY, NY 10017

Store at 25°C (77°F); excursions permitted to 15-30°C (59-86°F) [see USP Controlled Room Temperature].

Dispense in a tight container as defined in the USP.

DOSAGE AND USE
Initially, 1 or 2 capsules, increased gradually according to the patient's response. The *optimal* dose is 20 mg/kg/day. See accompanying prescribing information.

Each capsule contains 250 mg ethosuximide.

NDC 0071-0237-24

100 Capsules Rx only

Zarontin®
(Ethosuximide Capsules, USP)

250 mg

Distributed by
Pfizer Parke-Davis
Division of Pfizer Inc, NY, NY 10017

7902

FP0: UPC 100% x 0.35"

N 3 0071-0237-24 7

05-5987-32-3

NON-VARNISH AREA

Revised: 01/2010

Distributed by: Parke-Davis Div of Pfizer Inc